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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,682	08/16/2006	Junji Nishida	2271/76689	9912

23432 7590 10/24/2008

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EXAMINER	
FANTU, YALKEW	
ART UNIT	PAPER NUMBER
2838	
MAIL DATE	DELIVERY MODE
10/24/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/589,682	NISHIDA, JUNJI	
	Examiner	Art Unit	
	YALKEW FANTU	2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 August 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/10/07; 8/16/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings are objected to because applicant does not specifically indicate or label the drawing or drawings of the related art used as "Prior Art". Page 3 of the specification indicates fig. 7 as "... related art...", and is not clear weather this has to be considered as a "Prior Art" or not. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Figure 7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in

compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hisatoshi (JP 10-225001) in view of Ito et al (US 5,825,155).

With respect to claims 1 and 2 Hisatoshi discloses a battery connection detection circuit for detecting whether a secondary battery is operable and whether the secondary battery is reliably connected to a charging device (fig.1, 1) comprising: a current supplying circuit configured to supply a current (fig, 1, elements 1 and 3) to the secondary battery (fig. 1, 10); a constant voltage circuit (fig. 1, elements 3 and 6) configured to control the current from the current supplying circuit so that a voltage on a connection terminal (terminals connection 11 and 2) for connecting the secondary battery is constant (par. 0008); a constant current circuit configured to control the

current from the current supplying circuit (fig. 1, elements 1 and 3) so that the current supplied to the secondary battery (10) is constant (par. 0008).

But, Hisatoshi does not disclose a determination circuit configured to determine operation states of the constant voltage circuit and the constant current circuit.

Ito et al (hereinafter, Ito) discloses said determination circuit (fig. 38, 347) determining whether the secondary battery is operable and whether the secondary battery is reliably connected to the charging device according to the operation states of the constant voltage circuit and the constant current circuit (fig. 39; col. 10, lines 50-60).

Hisatoshi and Ito are analogous arts because they are from the same field of endeavor namely Charging System and charge Discharge Control.

At the time of the invention it would have been obvious to a person having ordinary skill in the art to provide a determination circuit that determines connection of charging device to the rechargeable battery according to the operation stases of the constant current and constant voltage circuit as taught by Ito to the charging system of Hisatoshi to ensure proper connection of the battery-charger system according to operation states of the current and voltage circuits.

The suggestion for doing would have been that the use of determination circuit, such as the microcomputer 60 control the OFF and ON switch 55 in the charging process performing a constant current and constant voltage operation. When only constant voltage control is performed, a current infinitely flows until the voltage becomes constant, thereby breaking the battery and the circuit (col. 10, lines 50-64).

Therefore it would have been obvious to combine Hisatoshi and Ito for the benefit of charging system with controlled current and voltage in order to avoid a possible damage to the rechargeable battery and charging circuit to obtain the invention as specified in claims 1 and 2.

With respect to claim 3, Hisatoshi discloses the battery connection detection circuit as claimed in claim 1, wherein when it is determined that the voltage on the connection terminal T1 is lower than a predetermined value from the operation State of the constant current circuit (par. 0008).

Regarding claims 4, 5, 6 and 9, Hisatoshi discloses battery connection detection circuit as in claim 1, wherein the current supplying circuit (fig. 1, elements 1 and 3); the constant voltage circuit includes a voltage detection circuit that detects the voltage on the connection terminal T1 (fig.1, elements 8, 22 and 11) and outputs a voltage Vd1 proportional to the detected voltage (fig. 1, V_{out}); and Ito discloses a first calculation amplification circuit (fig. 8, 58) into which the output voltage Vdl (voltage through 56) from the voltage detection circuit and a first reference voltage Vs1 (input to 58 from dc/dc) are input, and a first control transistor (fig. 32, 315) whose operation is controlled according to an output signal CV from the first calculation amplification circuit (fig. 32, 309); the constant current Circuit includes a current detection circuit that converts the current supplied by the current supplying circuit into a voltage and outputs the voltage (fig. 8, 57 that includes DC/DC circuit), a second calculation amplification circuit (fig. 32, 329) into which the output voltage from the current detection circuit (from 327) and a second reference voltage Vs2 are input (Vref), and a second control transistor whose

operation is controlled according to an output signal CC from the second calculation amplification circuit (fig. 32, 315); and the current control transistor controls the current supplied to the secondary battery according to operations of the first control transistor and the second control transistor (fig. 32, 335 SW could be a transistor and 337-controller).

Regarding claims 7 and 8, Hisatoshi discloses battery connection detection circuit wherein the current control transistor includes a MOS transistor (par. 0020), and Ito discloses that the current control transistor includes a bipolar transistor (see Fig. 80, elements 191 and 193).

With respect to claims 10 and 11, Hisatoshi discloses battery connection detection circuit wherein the current supplying circuit, the constant voltage circuit, the constant current circuit, and the determination, and the load circuit are integrated in one Integrated Circuit (IC) (fig. 1, elements 6,8,9 and 10 are integrated in one circuit).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YALKEW FANTU whose telephone number is (571)272-8928. The examiner can normally be reached on M - F: 7- 4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Akm E. Ullah can be reached on 571-272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

10/14/2008

/Gary L. Laxton/
Primary Examiner
Art Unit 2838